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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,586	08/24/2006	Yukari Hirata	BY0040P	8509
210 MERCK P O BOX 2000 RAHWAY, NJ 07065-0907	7590 03/24/2010		EXAMINER CHANDRAKUMAR, NIZAL S	
			ART UNIT 1625	PAPER NUMBER
			MAIL DATE 03/24/2010	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/590,586	<b>Applicant(s)</b> HIRATA ET AL.	
	<b>Examiner</b> NIZAL S. CHANDRAKUMAR	<b>Art Unit</b> 1625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) 23-35 is/are pending in the application.
- 4a) Of the above claim(s) 26-31, 33 and 35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 23-25, 31 and 34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/9/2009</u> .   | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Election/Restrictions***

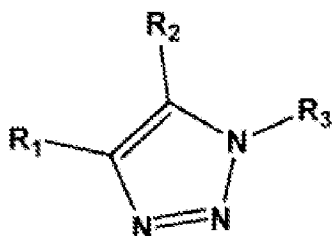
Applicant's election with traverse of Group I in the reply filed on 12/17/2009 is acknowledged. The traversal is on the ground(s) that the reference cited in the previous office action US 741703 does not disclose the compounds of the instant invention. This is not found persuasive because the restriction requirement is based on the invariant found in the claimed formula which appears in '703. The structural possibilities encompassed by the instant formula include structural possibilities included in the compounds of '703. As such the said invariant is not special.

The requirement is still deemed proper and is therefore made FINAL.

Claims 26-31, 33 and 35 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected inventions, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 12/17/2009. The reason for the withdrawal is in spite of applicant's statement that the claims reading on the elected Group I are 23-28, 30-34, are as follows:

See Restriction Requirement filed 11/23/2009, page 1, line 1 and 2. The elected subject matter corresponds to compounds of

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wherein R1 is pyridine, quinoline or isoquinoline, R2 is as defined in claim 1 and R3 is group (A).

As such,

Claim 26 is not part of the elected group because formula IIA, that is R1, is defined as pyridine, quinoline or isoquinoline and thus can not be phenyl.

Likewise,

Claim 27 is not part of the elected group, because ring A is defined as phenyl and thus can not have nitrogen in the ring.

For similar reasons:

Claim 28 is not part of the elected group

Claim 29 is not part of the elected group

Claim 30 is not part of the elected group

Claim 33 is not part of the elected group

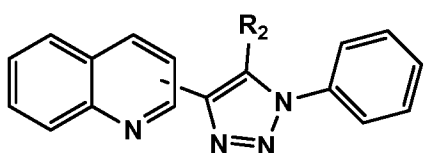
In addition, the **proviso** of the base claim 23 is inconsistent with elected group of compounds which are 1, 2, 3-triazoles. The proviso relates to 1, 2, 4 triazoles and tetrazoles compounds that are not part of the elected group.

Further, it is noted that 23-25, 31, 32, 34 claims are drawn to **non-elected subject matter**, while drawn to compounds that all under the elected group, contain non-elected subject matter.

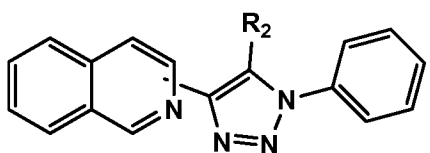
Most specifically elected Group I are compounds of the **core** structure shown below:



R1 pyridine



R1 quinoline



R1 isoquinoline

As such, it is suggested that applicant amend the claims in accord with the elected group formula explicitly shown in the Applicant is thus encouraged to replace the claim formula as well as define substituents consistent with the elected subject matter.

For these reasons, claims 23-25, 31, 32, 34 are examined to the extent that they read on the elected group core structures reiterated above.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

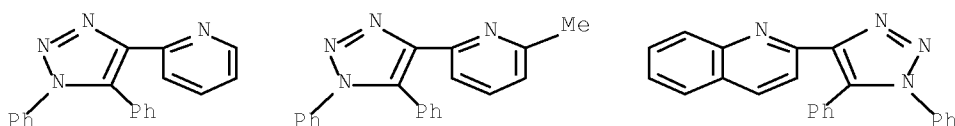
A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 23, 24, 25, 31 and 34 rejected under 35 U.S.C. 102(b) as being anticipated, independently by Eistert et al. Justus Liebigs Annalen der Chemie (1970), 734, 56-69. (STN Abstract Document No. 73:14768, is provided which has the structural information for correlation).

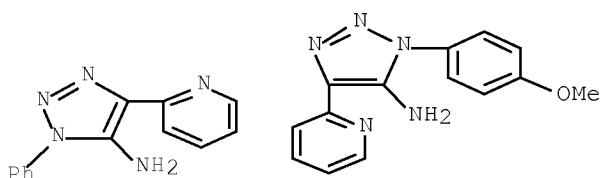
Eistert et al. teach,



corresponding to compound of the instant claim formula wherein R1 is pyridine (unsubstituted and substituted pyridine or quinoline and R2 is aryl), A is phenyl.

Claim 23, 24, 25, 31 and 34 rejected under 35 U.S.C. 102(b) as being anticipated, independently by L'abbe et al. Bulletin des Societes Chimiques Belges (1994), 103(7-8), 321-7. (STN Abstract Document No. 122:290182 is provided which has the structural information for correlation).

L'abbe et al. teach



corresponding to compound of the

instant claim formula wherein R1 is pyridine or quinoline and R2 is amino, A is substituted and unsubstituted phenyl.

**Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

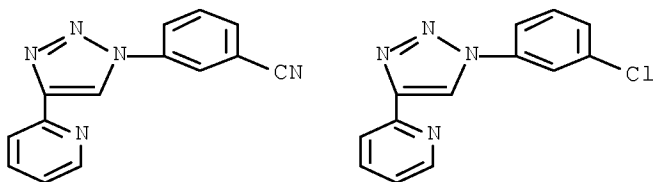
The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 23-25, 31, 32, 34 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Cosford et al. WO 2003051315 (applicant provided prior art, see page 1 of specification).

102 Reasoning:

Cosford et al. teach



corresponding to the elected

formula wherein

R1 is pyridine, R2 is H, R3 is group (A), i.e. phenyl substituted with cyano or halogen (see instant claim 23, numbered page 4, lines 10-12).

103 Reasoning:

Cosford et al. teach heteroaryl substituted triazole derivatives as modulators of metabotropic glutamate receptor-5

Cosford et al. do not teach all possibilities defined by the instantly elected formula, the instantly elected formula being triazole derivatives similarly substituted as in the teachings of Cosford et al. Thus the pharmacophoric minimum structure necessary for the intended use in (the prior art and in the instant case) is the 1,4-disubstituted 1,2,3-triazoles.

The difference (when present see 102 reasoning) is the substituents on the two aromatic groups at the 1,4-position of the 1,2,3-triazoles. However, the major portion of the instant formula and the prior art formula are the same and represent the pharmacophoric heterocyclic template responsible for activity at the receptor level. The differences in the claimed compounds are the substituents on the periphery of the bicyclic heterocyclic structure. It is well known to one of skill in the art that given an active structural template (i.e., pharmacophore), substituents provide medicinal chemistry opportunity for optimization of properties, such as (sub)-receptor selectivity, using commonly employed substituents to arrive at alternate forms of the active template, because substituents are not expected to adversely alter the inherent properties of the template. Obviousness based on similarity of structure and functions entails motivation to make the claimed compound in expectation that compounds of



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similar in structure will have similar properties; therefore, one of ordinary skill in the art would be motivated to make the claimed compounds in searching for new compounds.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NIZAL S. CHANDRAKUMAR whose telephone number is (571)272-6202. The examiner can normally be reached on 8.30 AM - 4.30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janet Andres can be reached on 571 0272-0867. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nizal S Chandrakumar/

Examiner, Art Unit 1625